

OTTAWA HOME COMPUTING

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OTTAWA HOME COMPUTING CLUB

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Commodore President and General Manager Rich McIntyre

OTTAWA HOME COMPUTING

OTTAWA HOME COMPUTING is the newsletter of the Ottawa Home Computing Club. Membership is open to all with a genuine interest in personal computing for \$20/year in Canada. Membership includes OTTAWA HOME COMPUTING, which is published 10 times a year. Meetings are usually held on the third Monday of each month, 7:30 p.m. at Charlebois High School, corner of Heron Road and Alta Vista Drive in Ottawa.

When submitting articles, please type or write legibly on 8 1/2 by 11 inch paper, double spaced. Articles may also be submitted on disk, or in a "print-ready" format. Contact the editor for more information.

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No space for an Editorial this month. Oh well, I editorialize in the Minutes, Letters, Questions and Answers. Keep those cards and letters coming. Thanks for all the submissions, especially to Scotty, whose work goes uncredited -- she scanned the photo for the cover.

Bob

C-64 DISK OF THE MONTH

The C-64 Disk of the Month is carried at the stores listed below. It sells for about \$4.50 and is available two days after each meeting.

ALI COMPUTERS

1158 Ogilvie Road	744-0220
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COMPUCENTRE

Carlingwood Mall	729-0448
------------------	----------

G-PLUS

130 Albert Street	230-7750
301 Moodie Drive	820-7326
1400 Clyde	723-2201

MR DISKETTE

119 O'Connor Street	232-5203
---------------------	----------

ZAP & ZOOM

435 Kent Street	232-4400
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PRESIDENT'S CORNER

by Pierre Castricum

February 1987 is upon us already; I guess there is some truth to the old saying "Time flies."

The photograph that you see on this month's newsletter is Mr. R. McIntyre, President and General Manager, Commodore Canada. Mr. McIntyre will be our main speaker at the February 16 meeting. He is tentatively scheduled to speak on the present and future direction of Commodore Canada. Also, I am quite sure that he will give us a brief insight into what is happening in the home computing field. You can be sure that he will provide us with a very interesting and informative meeting.

At the December meeting, a few suggestions were put forth by various members as to topics you would like to see featured at future meetings. One member suggested an evening devoted to different printers/interfaces. One topic which was not mentioned is the cleaning and aligning of a disk drive. Two members of the Kanata group have agreed to demonstrate this task at a future meeting. Their presentation is quite good -- I provided my own personal drive for a demonstration on January 29 at the Kanata meeting.

I would like to congratulate Wayne Schaler and everyone who helped in the organizing of the January meeting. A large number of members, together with their spouses, were quite impressed with the evening's speakers. I tip my hat to you, Wayne.

Berkeley Software, makers of GEOS (Graphical Environment Operating System) for the Commodore line of home computers, has produced two new additions to their family of GEOS-oriented programs. The first is called GEOcalc. This program is a sophisticated spreadsheet. Calculations can be done using this spreadsheet, which is 112 columns by 256 rows. From the ad and a glimpse of it at the World of Commodore show in Toronto last December, it looks good. The second program to come out is called GEOfile. If you haven't guessed it by now, GEOfile is a

database management program for GEOS-equipped computers. The information generated by both of these programs can be merged.

To conclude my column on a happy note, I would like to take this opportunity to congratulate Peter Nickless and his wife, who are expecting their second child this summer. See you all on February 16. ■

MEETING SCHEDULE

The following is the list of meeting dates for the next year. Dates marked with an asterisk do **not** fall on the third Monday of the month. **Note change to May meeting date.**

1987

February 16

March 23*

May 25*

July 20

April 27*

June 15

August 17

AGENDA

February 16 Meeting

7:30 Disk of the Month
Membership Sales
Socialization

8:00 Business Meeting

8:15 Speaker: Rich McIntyre, President and General Manager, Commodore Canada (see insert in this issue for details)

9:00 Special Interest Groups
Librarian and Machine-specific Groups

Special Interest Groups are meeting places for people with similar interests. Tell people what you're doing, or would like to be doing; ask people what they're doing, or discuss a problem you're having. What you get out is proportional to what you put in.

Computer Graphics Room 223

Beginning Computerists Room 224

Telecommunications Room 212

Data Base Users Room 213

Machine Language Room 215

Music Room 225

Also in this time period, the following Librarians will be available for your questions, suggestions, disk orders, etc. You might even catch a demo of the latest software:

Librarian Room

Apple & Mac Room 227

Commodore and Disk of the Month Room 219

Amiga Room 208

C128, CP/M Room 210

UPCOMING MEETINGS

February 16

Rich McIntyre, President and General Manager of Commodore Canada will be our special guest speaker. (see insert enclosed with this issue)

March 23

Computer Work Stations. Ross Slade is an Industrial Designer with a lot of degrees after his name. He is presently employed in the study and design of computer work stations for the federal government, and will be talking to us about our own computer set-ups. If you suffer back fatigue, eye strain, headaches, or any of several symptoms after a session on your computer, perhaps you should examine your computer set-up. Perhaps you should come to this meeting and learn how a proper set-up can increase your productivity. ■

MINUTES--JANUARY MEETING

The topic of the January meeting was Women and the Home/Office computer, and it was a very special meeting. Turn out was probably close to 200 (about 1/3 women), and the meeting opened with the club president, Pierre Castricum, welcoming all present and giving a brief introduction to the club. Wayne Schaler, the program co-ordinator then introduced the speakers, who gave a brief introduction to their topic. The

meeting broke at 8:30 for the classrooms, where lectures and displays were given in 25-minute segments.

I went to the graphics room first and saw Gord Martin demonstrating Gold Disk's PAGESETTER on the Amiga, while Peter Nickless was showing PRINT SHOP in another part of the room. After 15 minutes, I moved to the music room to catch Don White running music created with DELUXE MUSIC CONSTRUCTION SET on the Amiga. Ray Bigras demonstrated some of the commercial software available on the C64, and Bob Handforth displayed some of the music programming he has done on that machine. I could've spent the whole 1 1/2 hours in either demo room, but it was time to move on.

Scotty Adam's talked about 'Computers and Kids'. Never one to be restricted by a topic, Scotty covered 100 different issues in 20 minutes and still had time left to answer questions. Interesting and informative.

In 'Word Processing', Adele Saulnier wisely chose to discuss the features of a word processor that you should look for, and in some cases how to use these features. The lecture ended with two women asking specific questions about computers, word processors and printers, and everyone got into a discussion of the merits of the various options available. I think everyone learned something -- I did.

Laura Fitzsimmons conducted the workshop on 'Networking and Telecommunications', and this was well attended. Her experiences with the school board gave her a broad insight into the computer as an information tool.

Morna Ballantyne and Ruth Scher presided over what turned out to be the best attended of the lectures, 'Getting Started'. Having both a Macintosh and a C64 available for demonstrating their points certainly didn't harm the wide appeal of the topic.

Rox Anne Broughton, a salesperson at G-Plus, talked about what else ... salespeople. She gave some tips on what to look out for, questions to ask, and was able to get across the sales rep's point of view. For those who were interested in making a

continued on page 9

COMMODORE 128

HINTS, TIPS AND TRICKS
COMPILED BY P. NICKLESS

1.4

C128 Decimal Point- Here's a short routine the redefines the decimal point key on the 128's numeric keypad into a comma. The routine can be used to change any key on the keyboard to another ASCII value.

```
10 REM COMMA FOR NUMERIC KEYPAD 128
20 FOR I=0 TO 88:POKE 6912+I,PEEK(64128+I):NEXT
30 POKE 2757,PEEK(2757) OR 128
40 POKE 830,0:POKE 831,27
50 POKE 6912+82,44
```

To find the key value, use this program:

```
10 PRINT PEEK(213):GOTO 10
```

Hi-Res Sketch 128- Here's a program that will let you sketch a hi-res picture on your C128. The table below gives a brief description of each key's function.

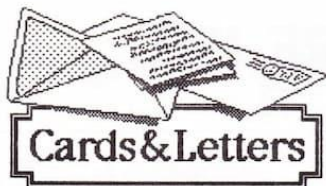
Y= up one pixel	J= right one pixel
B= down one pixel	H= left one pixel
T= move left and up one pixel	U= move right and up one pixel
V= move left and down one pixel	N= move right and down one pixel
P= paint an enclosed area	

```
5 REM SIMPLE SKETCH C128
10 GRAPHIC 1,1:X=150:Y=90:DRAW1,X,Y TO
  X,Y:CHAR1,11,0,"SIMPLE SKETCH"
20 CHAR1,0,1,"[39 SHFT Ds]"
30 GETA$:IFA$="" THEN 30
40 IFA$="Y" THEN Y=Y-1:GOTO 60
42 IFA$="B" THEN Y=Y+1:GOTO 60
44 IFA$="H" THEN X=X+1:GOTO 60
46 IFA$="G" THEN X=X-1:GOTO 60
48 IFA$="N" THEN X=X+1:Y=Y+1:GOTO 60
50 IFA$="T" THEN X=X-1:Y=Y-1:GOTO 60
52 IFA$="V" THEN X=X-1:Y=Y+1:GOTO 60
54 IFA$="U" THEN X=X+1:Y=Y-1:GOTO 60
56 IFA$="P" THEN PAINT1,X+1,Y,1:GOTO 30
58 GOTO 30
60 IF X>318 THEN X=X-1:GOTO 30
62 IF Y>198 THEN Y=Y-1:GOTO 30
70 IF X<0 THEN X=X+1:GOTO 30
72 IF Y<12 THEN Y=Y+1:GOTO 30
80 DRAW1,X,Y TO X,Y
82 GOTO 30
```

C128 Function Key Tips- the function keys can be programmed to save you time when typing in programs in Direct mode. This one is for loading programs:

```
KEY2,"DLOAD[3 TAB KEYS]+CHR$(27)+"@"+CHR$(13)
```

Press the F3 key for the directory, then position the cursor on the first character of the line containing the program you want to load. Now press F2 to load the program. If you want the program to run after loading, substitute RUN for DLOAD in the above key definition.



To the Editor:

Attached for your possible use in future issues of *Ottawa Home Computing* are some copies of computer laughs.... Keep up your good work with the Newsletter; it is enjoyed very much.

I would also like to add a vote of appreciation to the Club Executive for the interesting meeting January 19--my wife and I plus two visitors enjoyed it very much.

Morley Cashman

Thanks for the cartoons, Morley. They'll definitely come in useful in future issues.

* * *

To the editor:

Here is the fourth and last review of the four-part series which I set out to write for the Newsletter.... I hope they've been of some use.... I know music, but I'm still very much a beginner as far as computers are concerned. At present I'm trying to learn a little about machine code as it relates to music.

I may also be able to submit, from time to time, an occasional brief item about some little discovery -- a trick, technique or short cut which might be of interest. How about a monthly column in the newsletter: "Tips, Tricks, Techniques -- send in your ideas, questions, theories, solutions, etc." I suppose the majority of members are greenhorns like myself, and would be too timid to submit anything which might be easy and elementary for some of the more experienced members.

Anyway, keep up the good work.

Bob Handforth

Thank you very much for your excellent articles, Bob. I'm sure other members found them as useful as I did. Regarding your suggestion of a 'Tricks, Tips and Techniques' column, see the next letter, and my reply.

* * *

To the editor:

First of all, a couple of tips:

1. Club disk #37 contains a GOLF HANDICAP program by Wes McGoogan. To read the notes that accompany the program, make the following modification:

```
Insert Disk #37 in drive
Load "GOLF N*",8      <return>
List 4                  <return>
```

then type in the following line which will be the same length as the existing line 4:

```
4 C$="GOLF NOTES"<6 spaces>;IF A$="S"THEN7
<return>
List <return>
Save & Replace (if you dare) (better to
save to another disk: Ed.)
Run <return>
```

You can now print to the screen or to a printer.

The program is a demo of using SEQ and REL files as well as a golf handicap calculator. It has been through several revisions and when the latest has been debugged, will be re-issued.

I am involved with Wes in revising his GOLF HANDICAP program, (he's the programmer, I'm the user), and it is possible that we'll produce an article on his experiences as a novice, just beginning to program. Is there a preferred length for an article?

2. The last known address for Data 20 product information is:

Pam V. Adamson, Account Administrator,
The Computer Network,
P.O. Box 9840,
Fountain Valley,
California 92708
Phone (714) 855-4366 or (800) 221-9948

3. I'd also like to suggest a column where members with problems can submit their questions. One advantage of this would be that response time should be less than that from the magazines. I've had a number of problems with GEOS, and would like some advice.

J. Greenstreet

Editor's Reply: First of all, it sounds like you and Hes have an excellent idea for an article -- one of interest to most members. As to length, there isn't a hard-and-fast rule; it depends on the subject matter, technical language & writing style.

One average page of this newsletter has 500-700 words on it, making allowances for a heading on the first page and a small graphic on each of any additional pages. Articles much longer than three pages might be easier to read if split into two articles (as Bob Handforth did with his music series) but once again that depends on the topic; splitting is not recommended if either part will not stand as an article on its own.

What I often do is write the article, and then see how long it is. At that point I can decide whether I should do some heavy editing to get it down to a page, or perhaps some embellishing (adding humorous anecdotes, comments, etc.) to get it up to two pages. Serge Comet used that method when he wrote "Photographing the Screen" in the December issue. After writing what he wanted, he had 2500 words -- 4 pages. When he looked at the subject matter, and the way he had written it, he felt it should be cut down to two pages; that decision enabled him to cut out a lot of technical and background detail which he judged not to be of interest to the average member. He ended up with a perfect 2-pager.

Enough of that. You are in good company when you suggest a 'Problems' column. I've had 3 other people suggest something like that within the past month, and I consider that to be a massive mandate (after several months of nothing). I know that for me, the most useful article in *Compute!'s Gazette* is the feedback column.

I like Bob Handforth's idea of combining member questions and member 'tips' into one column. And I agree with him that many members are probably too timid to submit their suggestions, or questions. Pity -- because I'm sure that there are many members out there who could give me some useful hints regarding my computer.

So, as far as tips go, send 'em in. They can be used to fill out pages, or if there are enough, they can make up a column. Peter Nickless prepares a column of Tips for the C128. Anyone who has a suggestion for that machine should send it to Peter Nickless. For all other machines, Commodore and Apple, send any hints, tips or short-cuts to the Newsletter editor.

Questions are a bit different -- someone who has a problem would like a solution as quickly as possible. I've heard that at some clubs, one person is designated as the 'expert' for a certain piece of hardware or software. We do the same thing in a less overt way -- if someone has a question, we try and find someone familiar with that hardware or software, and direct the question to that person. I know our President, Pierre Castricum, fields a lot of Commodore questions over the phone, as do most other executive members. And that is probably the best way to get a relatively quick answer to a problem.

I do think it is important to print questions and answers in the Newsletter, because often a problem for one member is a problem for many. That's why I've printed your questions, along with an attempt to answer them, elsewhere in this issue. But I also referred your questions to Pierre, who, along with Carl Bigras and Marv Bero, is becoming quite adept at handling GEOS. Pierre will give you a call.

So the bottom line is: if you've got a question and want a quick answer, phone someone. Once the problem is solved, write it up and send it to the Newsletter, so other members will know about it. If you're not in a rush, submit your question to the Newsletter, and we'll try to get an answer for the next issue. ■

Programming Music in 3 Voices (Part IV)

by Bob Handforth

The fourth method for programming 3-voice music on the C64 is described in another book, *Commodore 64 Music*, written by Ian Waugh. The book is sub-titled "making music with your micro", and it may possibly be the book referred to at the bottom of page 208 of the *C64 Programmer's Reference Guide*. It was published comparatively late (in 1985) and deals more completely with music than do many other similar publications which usually combine both graphics and sound as their subject matter.

The book contains a number of ingenious ideas and suggestions, including novel approaches to the use of musical side effects. It even includes an interesting chapter on how to use the random features of the computer in order to compose music. It is an excellent treatise on C64 sound capabilities, even though at times it tends to be a little too elaborate.

The most conspicuous feature of the 3-voice method advocated in this book is the use of actual note names (such as G, F#, A, C#, etc.) as data entries to be read in the program. If you are like myself, not too adept with the typewriter keyboard, you can imagine what difficulties this would present. Typing in data values would require the use of (1) all the digits (0 to 9), (2) the comma separator, (3) the letter "R", used to indicate a rest, (4) the seven note names, "A" to "G", (5) the sharp symbol (#), and (6) the minus sign, (-). The book offers no accuracy check or proofreading program such as are found in most computer magazines. On the few occasions where I have attempted to use the system, I have found it to be painfully slow, because of the constant need for caution and alertness.

However, this method does try to make the process a little easier, even if one is not an accomplished typist. When the entry

of data is completed and you RUN the program, you are advised that the computer is "reading in note data". Shorter after, it informs you that "channel one is complete", then channel two, and finally channel three. Just as I expected to hear some music, the program told me that "channels do not contain an equal number of note values", and it even discloses the number of sixteenth notes totalled for each voice. All this is politely helpful, but it does nothing to improve my typing.

The data entries for each voice commence with a preliminary entry of "DATA R,1". This rest of a single sixteenth note value is to avoid a discordant effect which can result from the first attempt by the computer to cope with all the variables. (This little trick was also used in the Vogel-Scrimshaw program.) The note data consists of the note symbol prefixed to the octave number, and followed by the duration value, e.g. C#5,2, A4,4, F#3,2, etc. The end of the data entries for each voice is marked by two negative values, -1,-1.

The method for determining the high and low frequencies is similar to the one used in the *Programmer's Reference Guide* system. Base frequency numbers for the twelve notes in the highest octave are divided by 2 enough times to reach down to the required octave where they are broken down into their high and low components. The voice independence is achieved in the same way as was described in the Vogel-Scrimshaw program. As with all other methods, the main part of the program can be re-used with different sets of data to play different tunes.

* * *

In an earlier review I mentioned that I had devised a short, somewhat crude test to compare the relative merits of the four different methods with respect to set-up time and RAM usage. The Butterfield program was by far the best in both these areas,

but it does have that one serious fault -- that lack of true voice independence. The Vogel-Scrimshaw program was next. It was a little harder on RAM than Butterfield's program, but it does have complete voice flexibility, although it is obtained at the cost of a delay in set-up time. The system described in Ian Waugh's book used a little more RAM than the Vogel-Scrimshaw program, but the set-up time needed was almost twice as long. The method offered in the *Programmer's Reference Guide* ran a poor fourth with both set-up time and RAM requirements well behind the other three.

Other ideas have been suggested by other authors, but they are not distinctively unique, since they employ different components of some of the systems already described. *Compute's Book on C-64 Sound* describes a program similar to Butterfield's, but it has no real voice independence. A book by Stan Krute, *C-64 Graphics and Sound Programming*, offers a method somewhat like Ian Waugh's (using real note names) but it also lacks voice independence. *The Working Commodore 64* by David Lawrence contains a chapter on music. In it he describes a more elaborate program, written in modules, and very similar to the Vogel-Scrimshaw system. However, he enters all 96 frequency numbers as data to be used whenever required.

Probably the best and ultimate solution to the problem of three-voice programming on the C64 lies in the use of machine code. In the September-October 1985 issue of *Commodore Magazine* there was an article showing how a short Bach selection could be played by means of an assembly program and using the PAL assembler. This demonstration, however, used only one of the three voices. Despite several attempts to modify the program, I have not yet been able to get it to play in two voices. Nevertheless, the article -- and the program -- have served to reveal some aspects of 'music through machine code' which had previously puzzled me. I'm still working on it.

* * *

P.S. Shortly after I completed the above review, I became aware of an additional article. In the January 1987 issue of *Compute* magazine (not *Gazette*) there is an article on "Music Maker 64" on page 63. It describes a method for playing three-voice music by using a machine code routine. I hope to analyze the program eventually in order to see better how machine language can be employed for this purpose. I'd be happy to hear from anyone who can throw any additional light on this problem. ■

MINUTES from page 4

significant purchase soon, this information was most helpful.

ZERO PAGE

BY RITA FINE



Computer Pirate

Altogether this was a well-planned and well-executed evening. I hope the women who attended got as much out of it as I did. My only complaint was that there were too many good things going on to be able to get to everything I wanted to. It's like an all-you-can-eat buffet; you've had two platefuls and still haven't sampled half the spread. You have that bloated feeling, but wish you had room for more. You wish you could come back some other time and finish it off.

I know the effort Wayne, Scotty and others put into this, and they deserve our congratulations. I said before that this was the club's most ambitious effort, and they (and Wayne especially) pulled it off without a hitch. And I forgive Wayne (this time) for all the pressure he put on me.

C-64 GAME DESIGN

Twenty-sixth of a series

by John Batchelor

Before I get down to this month's installment of our two-player co-operative game, I'd like to mention two bargains I picked up after Christmas. My computer didn't get a visit from Santa so I had to fill in. I found a C64 Super-Expander for \$10. This under-publicized accessory adds graphic, music and game commands to BASIC. You lose 8k of memory but get many of the features of BASIC 7.0 in the C128. The sprite designer is particularly fun. I think I will be using the Super-Expander to test out game features and adapt programs from other machines which have similar commands in their BASICs.

I also got a Currah Voice Messenger speech cartridge for \$15. My kids like this one because it announces which key is pressed. It can add speech commands to BASIC and machine language programs but you can't share these with others who don't have the voice cartridge. I think it will come in most handy when typing programs from magazines. I hope my touch typing will improve when I don't have to look at the keys. I had some minor rewiring to do to adapt the cartridge to my ancient C64's 5-pin audio-video port. It is designed for the 8 pin variety used for the last three years.

Alright -- down to business. The first thing is to format a fresh disk. Transfer to it the utility programs that you intend to use in the design of the game. You will also need a notebook to keep track of things as you go along. To give this game a custom look and to generate some novel scenery, we need custom characters. I use the ULTRAFONT program from the July '84 *Gazette* which is on club disk #19. I fattened up the numbers and capital letters for a distinctive appearance. This meant making most of the letter parts three pixels or dots wide instead of two.

The action in this game will take place in an abandoned spaceship. I wanted the walls to look "hi-tech" and 3-D. The *Star Wars* film popularized an architectural style which consists of lots of little

boxes. This looks good in the harsh light of outer space with lots of nice shadows. Some of the C64's 8 pixel by 8 pixel characters can be turned into little box-like depressions of different depths and stacked at random to produce the walls of the ship. I sacrificed the first several punctuation characters -- the !, ", #, \$, % and & -- to become these tiles or boxes. A Commodore character set has 256 characters so there is plenty of room when you need only 26 letters and 10 digits for most purposes. Here are the patterns I used:

```

XXXXXXXX XXXXXXXX XXXXXXXX
XXXXXXXX X      X
XXXXXXXX X XXXXX X
XXXXXXXX X XXXXX X XXXXXX
XXXXXXXX X XXXXX X XXXXXX
XXXXXXXX X XXXXX X XXXXXX
XXXXXXXX X XXXXX X XXXXXX
XXXXXXXX X XXXXX X XXXXXX
XXXXXXXX X XXXXX X XXXXXX

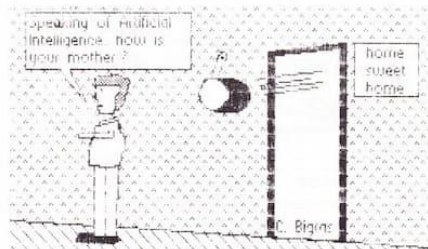
```

```

XXXXXXXX XXXXXXXX XXXXXXXX XXXXXXXX
X      X      X      X
X      X      X      X
X      X      X      X
X XXXX X      X      X
X XXXX X XXXX X      X
X XXXX X XXXX X XX X
X XXXX X XXXX X XX X X

```

To call these out, I wrote a little BASIC program which switches the character set to the custom one and prints the new tiles at random on the screen. This helped me decide what colours to use. Gold old light blue on dark blue seemed the clearest after all. Next month we'll design our sprites and get our first look at what the game might look like. ■



Questions & Answers

Q: My 1541 works well alone, daisy-chained to a printer. When I add a second drive, with address 9 in hardware, programs will load from this drive, but when using GEOS, data from the second drive will not pass up the chain. Replacing the 1541 with another has cured the problem. Does this mean the 1541 is defective? Is there a diagnostic program similar to C64 DOCTOR which will check a 1541 drive and 2 drives in line?

Does the Epyx FAST LOAD cartridge interfere with GEOS when using two drives?

Is there a later GEOWrite than V1.3 which will implement a 'go to next line' command? The lack of this ability makes GEOWrite very cumbersome?

I have a copy of something called GEOWrite 2.0 (Writer's Workshop) but it will not load into V1.3. Is there another GEOS upgrade? or a GEOS dongle?

J. Greenstreet

A: As was indicated in the letters column, I've referred your questions to Pierre who is more familiar with GEOS, and he should be calling you to get more specific details.

First of all, GEOS doesn't like cartridges, especially ones like FAST LOAD which are activated on power up. That could be a source of problems.

If your second drive is a 1541 or 1571 and is hardware set to device #9, then loading GEOS should give you two disk icons in the upper right corner. (When both drives are device 8, boot GEOS from the first drive, choose 'disk' menu and the 'add disk' option. This will give you the two disk icons in the upper right corner.) To access the second disk, move the cursor to the lower disk icon (B) and click. This should load that disk's directory onto the desktop. (Note: that disk must have a different name from the first disk). At that point, you should be able to access files from the second disk.

To access files on the second disk from GEOPaint or GEOWrite, load that program and at the 'create, open, quit' box, move the

cursor to open and click. Current disk name will be displayed and the first five filenames listed. To change disks, click on the disk name and the second disk should be accessed with its first five filenames. Click on the appropriate file and it should load.

GEOWrite is an awkward word processor to be sure; as Jan Frajkor said in his review of GEOS (October '86), don't throw away your word processing software yet. Apparently WRITER'S WORKSHOP (which is V2.0) is a vast improvement.

The copy protection on WRITER'S WORKSHOP is different from most. The original GEOS program has a serial number, and, on loading WRITER'S WORKSHOP for the first time, that serial number is written to the WRITER'S WORKSHOP disk. On subsequent loads, the serial numbers are compared, and if not the same, you get a 'use GEOS original disk' or something like that. So if you bought V2.0 at a store, and took it out of the package there for a demo, and the store used their GEOS and your V2.0, your disk would be useless to you. Similarly (as Carl Bigras found out when he tried to demo it for me) if you took V2.0 over to a friend's place, it won't load with the friend's GEOS.

There certainly are Disk Doctors around. Free Spirit, Cardinal and CSM are some of the manufacturers -- check the magazine ads for addresses. But these programs usually analyze one drive at a time, for speed, alignment, etc. and I'm not sure whether they would work with a two drive configuration. It might be a good idea to write to them and ask if their products would suit your needs. ■

APPLE LIBRARIAN NEEDS PROGRAMS

Apple Librarian Vojta Frysek is looking for new programs for the Apple disk-of-the-month. Vojta has been putting together disks by taking programs from past disks. Needless to say, new and/or original programs would be welcomed. So if you've created a game or utility, or even typed in a program from a book or magazine, submit it to the librarian--share it with others. If your program is used, you'll get the d-o-t-m with your program on it free! ■

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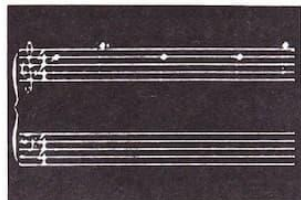
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